

L Number	Hits	Search Text	DB	Time stamp
3	1	morph near4 brush	USPAT; US-PGPUB	2004/09/16 14:21
4	2	edit near4 brush	USPAT; US-PGPUB	2004/09/16 14:22
5	256621	(deform\$6 or distort\$4) and (vector or curve or ((anchor or control) near5 point\$2) or path)	USPAT; US-PGPUB	2004/09/16 14:24
6	482660	(deform\$6 or distort\$4 or displac\$6) and (vector or curve or ((anchor or control) near5 point\$2) or path)	USPAT; US-PGPUB	2004/09/16 14:26
7	782	345/619.cccls.	USPAT; US-PGPUB	2004/09/16 14:27
8	66	345/647.cccls.	USPAT; US-PGPUB	2004/09/16 14:27
9	58	345/646.cccls.	USPAT; US-PGPUB	2004/09/16 14:27
10	167	345/672.cccls.	USPAT; US-PGPUB	2004/09/16 14:27
11	52414	(distan\$4 or displac\$5) near6 (((control or anchor) near5 point\$2) or path)	USPAT; US-PGPUB	2004/09/16 14:28
12	1033	345/619.cccls. or 345/646.cccls. or 345/647.cccls. or 345/672.cccls.	USPAT; US-PGPUB	2004/09/16 14:29
13	50	((distan\$4 or displac\$5) near6 (((control or anchor) near5 point\$2) or path)) and (345/619.cccls. or 345/646.cccls. or 345/647.cccls. or 345/672.cccls.)	USPAT; US-PGPUB	2004/09/16 14:29
14	35	((((distan\$4 or displac\$5) near6 (((control or anchor) near5 point\$2) or path)) and (345/619.cccls. or 345/646.cccls. or 345/647.cccls. or 345/672.cccls.)) and ((deform\$6 or distort\$4 or displac\$6) and (vector or curve or ((anchor or control) near5 point\$2) or path)))	USPAT; US-PGPUB	2004/09/16 14:31
15	30	((((distan\$4 or displac\$5) near6 (((control or anchor) near5 point\$2) or path)) and (345/619.cccls. or 345/646.cccls. or 345/647.cccls. or 345/672.cccls.)) and ((deform\$6 or distort\$4 or displac\$6) and (vector or curve or ((anchor or control) near5 point\$2) or path))) and (@rlad<20010703 or @ad<20010703)	USPAT; US-PGPUB	2004/09/16 14:52
16	915	345/473.cccls.	USPAT; US-PGPUB	2004/09/16 14:50
17	318	345/474.cccls.	USPAT; US-PGPUB	2004/09/16 14:50
18	1115	345/473.cccls. or 345/474.cccls.	USPAT; US-PGPUB	2004/09/16 14:50
19	36	(345/473.cccls. or 345/474.cccls.) and (stroke)	USPAT; US-PGPUB	2004/09/16 14:50
20	98	(345/473.cccls. or 345/474.cccls.) and (stroke or path or curve) and (displac\$6 or distort\$6) and vector	USPAT; US-PGPUB	2004/09/16 14:52
21	61	((345/473.cccls. or 345/474.cccls.) and (stroke or path or curve) and (displac\$6 or distort\$6) and vector) and ((distan\$4 or spac\$4) near4 (point))	USPAT; US-PGPUB	2004/09/16 14:51
23	0	((((345/473.cccls. or 345/474.cccls.) and (stroke or path or curve) and (displac\$6 or distort\$6) and vector) and ((distan\$4 or spac\$4) near4 (point))) and ((morph\$4 or edit\$4) near5 brush\$2))	USPAT; US-PGPUB	2004/09/16 14:52
22	43	(morph\$4 or edit\$4) near5 brush\$2	USPAT; US-PGPUB	2004/09/16 14:52
24	8	((morph\$4 or edit\$4) near5 brush\$2) and (stroke or path or curve) and (displac\$6 or distort\$6) and vector	USPAT; US-PGPUB	2004/09/16 14:52
25	8	((((morph\$4 or edit\$4) near5 brush\$2) and (stroke or path or curve) and (displac\$6 or distort\$6) and vector) and (@rlad<20010703 or @ad<20010703))	USPAT; US-PGPUB	2004/09/16 15:31

26	4	((((morph\$4 or edit\$4) near5 brush\$2) and (stroke or path or curve) and (displac\$6 or distort\$6) and vector) and (@rlad<20010703 or @ad<20010703)) not adobe.as.	USPAT; US-PGPUB	2004/09/16 15:08
27	1	6628295.pn.	USPAT; US-PGPUB	2004/09/16 15:11
28	1	6628295.pn. and styl\$4	USPAT; US-PGPUB	2004/09/16 15:11
29	1	6628295.pn. and stylistic	USPAT; US-PGPUB	2004/09/16 15:30
30	4329	brush\$2 same (siz\$4 and shape\$2)	USPAT; US-PGPUB	2004/09/16 15:31
31	28773	(displac\$4 or distort\$4 or warp\$4 or morph\$4) near8 (path\$2 or curve or skeleton or stroke)	USPAT; US-PGPUB	2004/09/16 15:31
32	34	(brush\$2 same (siz\$4 and shape\$2)) and ((displac\$4 or distort\$4 or warp\$4 or morph\$4) near8 (path\$2 or curve or skeleton or stroke))	USPAT; US-PGPUB	2004/09/16 15:31
33	32	((brush\$2 same (siz\$4 and shape\$2)) and ((displac\$4 or distort\$4 or warp\$4 or morph\$4) near8 (path\$2 or curve or skeleton or stroke))) and (@rlad<20010703 or @ad<20010703)	USPAT; US-PGPUB	2004/09/16 15:32
34	0	345/\$6.ccls	USPAT; US-PGPUB	2004/09/16 15:32
35	51776	345/\$6.ccls.	USPAT; US-PGPUB	2004/09/16 15:32
36	10	((brush\$2 same (siz\$4 and shape\$2)) and ((displac\$4 or distort\$4 or warp\$4 or morph\$4) near8 (path\$2 or curve or skeleton or stroke))) and (@rlad<20010703 or @ad<20010703)) and 345/\$6.ccls.	USPAT; US-PGPUB	2004/09/16 15:34
37	6	((((brush\$2 same (siz\$4 and shape\$2)) and ((displac\$4 or distort\$4 or warp\$4 or morph\$4) near8 (path\$2 or curve or skeleton or stroke))) and (@rlad<20010703 or @ad<20010703)) and 345/\$6.ccls.) not adobe.as.	USPAT; US-PGPUB	2004/09/16 15:34

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## 1 [Drawing and animation using skeletal strokes](#)

Siu Chi Hsu, Irene H. H. Lee

July 1994 **Proceedings of the 21st annual conference on Computer graphics and interactive techniques**Full text available:  [pdf\(2.14 MB\)](#)  Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index](#)  
 [ps\(4.06 MB\)](#) [terms](#)

The use of skeletal strokes is a new vector graphics realization of the brush and stroke metaphor using arbitrary pictures as "ink". It is based on an idealized 2D deformation model defined by an arbitrary path. Its expressiveness as a general brush stroke replacement and efficiency for interactive use make it suitable as a basic drawing primitive in drawing programs as well as windowing and page description systems. This paper presents our drawing and animation ...

## 2 [Object-based image editing](#)

William A. Barrett, Alan S. Cheney

July 2002 **ACM Transactions on Graphics (TOG) , Proceedings of the 29th annual conference on Computer graphics and interactive techniques**, Volume 21 Issue 3Full text available:  [pdf\(18.90 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index](#)  
[terms](#)

We introduce Object-Based Image Editing (OBIE) for real-time animation and manipulation of static digital photographs. Individual image objects (such as an arm or nose, Figure 1) are selected, scaled, stretched, bent, warped or even deleted (with automatic *hole filling*) - *at the object, rather than the pixel level* - using simple gesture motions with a mouse. OBIE gives the user direct, local control over object shape, size, and placement while dramatically reducing the time require ...

**Keywords:** animation, image editing, image warping, image-based rendering, texture synthesis

## 3 [Skeletal strokes](#)

S. C. Hsu, I. H. H. Lee, N. E. Wiseman

December 1993 **Proceedings of the 6th annual ACM symposium on User interface software and technology**Full text available:  [pdf\(1.11 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index](#)  
[terms](#)

**Keywords:** animation, digital typography, fractals, picture transformation, skeletal strokes, user interaction, virtual device interfaces

#### 4 Visual communication: An invitation to discuss computer depiction

Frédo Durand

June 2002 **Proceedings of the 2nd international symposium on Non-photorealistic animation and rendering**

Full text available:  pdf(401.53 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper draws from art history and perception to place computer depiction in the broader context of picture production. It highlights the often underestimated complexity of the interactions between features in the picture and features of the represented scene.

Depiction is not always a unidirectional projection from a 3D scene to a 2D picture, but involves much feedback and influence from the picture space to the object space. Depiction can be seen as a pre-existing 3D reality projected onto ...

**Keywords:** computer depiction, interaction, non-photorealistic rendering, perception, visual arts

#### 5 Decorating implicit surfaces

Hans Køhling Pedersen

September 1995 **Proceedings of the 22nd annual conference on Computer graphics and interactive techniques**

Full text available:  pdf(421.73 KB)

 ps(1.39 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

#### 6 DAB: interactive haptic painting with 3D virtual brushes

Bill Baxter, Vincent Scheib, Ming C. Lin, Dinesh Manocha

August 2001 **Proceedings of the 28th annual conference on Computer graphics and interactive techniques**

Full text available:  pdf(10.82 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

*We present a novel painting system with an intuitive haptic interface, which serves as an expressive vehicle for interactively creating painterly works. We introduce a deformable, 3D brush model, which gives the user natural control of complex brush strokes. The force feedback enhances the sense of realism and provides tactile cues that enable the user to better manipulate the paint brush. We have also developed a bidirectional, two-layer paint model that, combined with a palette interface ...*

**Keywords:** Human Computer Interaction, deformable brush model, haptics, painting systems

#### 7 Three-dimensional distance field metamorphosis

Daniel Cohen-Or, Amira Solomovic, David Levin

April 1998 **ACM Transactions on Graphics (TOG)**, Volume 17 Issue 2

Full text available:  pdf(1.80 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Given two or more objects of general topology, intermediate objects are constructed by a distance field metamorphosis. In the presented method the interpolation of the distance field is guided by a warp function controlled by a set of corresponding anchor points. Some rules for defining a smooth least-distorting warp function are given. To reduce the distortion of the intermediate shapes, the warp function is decomposed into a rigid rotational part and an elastic part. The distance field in ...

**Keywords:** computer animation, interpolation, morphing, radial basis function, shape-

blending, warping

**8 Character/web: Animated deformations with radial basis functions**

Jun-yong Noh, Douglas Fidaleo, Ulrich Neumann

October 2000 **Proceedings of the ACM symposium on Virtual reality software and technology**

Full text available:  [pdf\(2.26 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We present a novel approach to creating deformations of polygonal models using Radial Basis Functions (RBFs) to produce localized real-time deformations. Radial Basis Functions assume surface smoothness as a minimal constraint and animations produce smooth displacements of affected vertices in a model. Animations are produced by controlling an arbitrary sparse set of control points defined on or near the surface of the model. The ability to directly manipulate a facial surface with a small number ...

**Keywords:** Facial Animation, Geometry Deformation, MPEG-4, Radial Basis Functions

**9 Image-based modeling and photo editing**

Byong Mok Oh, Max Chen, Julie Dorsey, Frédéric Durand

August 2001 **Proceedings of the 28th annual conference on Computer graphics and interactive techniques**

Full text available:  [pdf\(4.01 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present an image-based modeling and editing system that takes a single photo as input. We represent a scene as a layered collection of depth images, where each pixel encodes both color and depth. Starting from an input image, we employ a suite of user-assisted techniques, based on a painting metaphor, to assign depths and extract layers. We introduce two specific editing operations. The first, a "clone brushing tool," permits the distortion-free copying of parts of a picture, b ...

**10 Bibliography of recent publications on computer communication**

Martha Steenstrup

January 1998 **ACM SIGCOMM Computer Communication Review**, Volume 28 Issue 1

Full text available:  [pdf\(2.02 MB\)](#) Additional Information: [full citation](#), [abstract](#), [index terms](#)

The quantitative results presented in our SIGCOMM '97 paper [1] include numerous minor errors. These errors were caused by programming bugs that led to faulty analyses and simulations, and by inaccurate transcriptions during the preparation of the paper. Here we present corrected figures and tables, as well as corrections to values that appeared in the text of the original paper. The effect of correcting the errors is to reduce the differences between the results based on the proxy trace and the ...

**11 Animation: Ryan: rendering your animation nonlinearly projected**

Patrick Coleman, Karan Singh

June 2004 **Proceedings of the 3rd international symposium on Non-photorealistic animation and rendering**

Full text available:  [pdf\(748.35 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Artistic rendering is an important research area in Computer Graphics, yet relatively little attention has been paid to the projective properties of computer generated scenes. Motivated by the surreal storyboard of an animation in production---*Ryan*---this paper describes interactive techniques to control and render scenes using nonlinear projections. The paper makes three contributions. First, we present a novel approach that distorts scene geometry such that when viewed through a standard ...

**Keywords:** Non-Photorealistic Rendering, local illumination, multiprojection, nonlinear perspective

**12 Feature-based image metamorphosis**

Thaddeus Beier, Shawn Neely

July 1992 **ACM SIGGRAPH Computer Graphics , Proceedings of the 19th annual conference on Computer graphics and interactive techniques**, Volume 26 Issue 2Full text available:  [pdf\(7.62 MB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**Keywords:** computer animation, image processing, interpolation, shape transformation**13 Synthesizing realistic facial expressions from photographs**

Frédéric Pighin, Jamie Hecker, Dani Lischinski, Richard Szeliski, David H. Salesin

July 1998 **Proceedings of the 25th annual conference on Computer graphics and interactive techniques**Full text available:  [pdf\(276.04 KB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**Keywords:** facial animation, facial expression generation, facial modeling, morphing, photogrammetry, view-dependent texture-mapping**14 Fitting smooth surfaces to dense polygon meshes**

Venkat Krishnamurthy, Marc Levoy

August 1996 **Proceedings of the 23rd annual conference on Computer graphics and interactive techniques**Full text available:  [pdf\(583.42 KB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**Keywords:** B-spline surfaces, dense polygon meshes, displacement maps, parameterization, surface fitting**15 A framework for interactive texturing on curved surfaces**

Hans Køhling Pedersen

August 1996 **Proceedings of the 23rd annual conference on Computer graphics and interactive techniques**Full text available:  [pdf\(202.09 KB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**16 Texture mapping for cel animation**

Wagner Toledo Corrêa, Robert J. Jensen, Craig E. Thayer, Adam Finkelstein

July 1998 **Proceedings of the 25th annual conference on Computer graphics and interactive techniques**Full text available:  [pdf\(668.31 KB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**Keywords:** celanimation, metamorphosis, morph, non-photorealistic rendering, silhouette detection, texture mapping, warp**17 A morphable model for the synthesis of 3D faces**

Volker Blanz, Thomas Vetter

July 1999 **Proceedings of the 26th annual conference on Computer graphics and interactive techniques**

Full text available:  pdf(2.76 MB)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** computer vision, facial animation, facial modeling, morphing, photogrammetry, registration

**18 Session 2: High-pass quantization for mesh encoding** 

Olga Sorkine, Daniel Cohen-Or, Sivan Toledo

June 2003 **Proceedings of the Eurographics/ACM SIGGRAPH symposium on Geometry processing**Full text available:  pdf(8.58 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Any quantization introduces errors. An important question is how to suppress their visual effect. In this paper we present a new quantization method for the geometry of 3D meshes, which enables aggressive quantization without significant loss of visual quality. Conventionally, quantization is applied directly to the 3-space coordinates. This form of quantization introduces high-frequency errors into the model. Since high-frequency errors modify the appearance of the surface, they are highly noti ...

**19 Seamless texture mapping of subdivision surfaces by model pelting and texture blending** 

Dan Piponi, George Borshukov

July 2000 **Proceedings of the 27th annual conference on Computer graphics and interactive techniques**Full text available:  pdf(8.01 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Subdivision surfaces solve numerous problems related to the geometry of character and animation models. However, unlike on parametrised surfaces there is no natural choice of texture coordinates on subdivision surfaces. Existing algorithms for generating texture coordinates on non-parametrised surfaces often find solutions that are locally acceptable but globally are unsuitable for use by artists wishing to paint textures. In addition, for topological reasons there is not necessarily any ch ...

**Keywords:** curves & surfaces, physically based animation, texture mapping

**20 Integrating shape and pattern in mammalian models** 

Marcelo Walter, Alain Fournier, Daniel Menevaux

August 2001 **Proceedings of the 28th annual conference on Computer graphics and interactive techniques**Full text available:  pdf(955.84 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The giraffe and its patches, the leopard and its spots, the tiger and its stripes are spectacular examples of the integration of a pattern and a body shape. We present an approach that integrates a biologically-plausible pattern generation model, which can effectively deliver a variety of patterns characteristic of mammalian coats, and a body growth and animation system that uses experimental growth data to produce individual bodies and their associated patterns automatically. We use the exam ...

**Keywords:** animal models, animal patterns, clonal mosaic patterns, growth, integration, natural phenomena, texture synthesis

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